

Appl. No. 10/064,046
Amdt. dated August 12, 2005
Reply to Office action of June 27, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims:

1. (currently amended) A pointing device for a computer comprising:
 - 5 a body;
 - a magnetic field source for generating a magnetic field having a direction relative to a measurement location and a magnitude proportional to a distance between the magnetic field source and the measurement location;
 - a magnetic field sensor for measuring the magnitude and direction of the magnetic field generated by the magnetic field source at a measurement location, and outputting an electrical signal corresponding to the magnitude and direction of the magnetic field at the measurement location;
 - 10 a flexible member for allowing and controlling a relative movement of the magnetic field source and the magnetic field sensor, a first end of the flexible member being connected to the body and a second end of the flexible member capable of swinging freely, the flexible member and magnetic field source forming a critically dampened system such that when a force is applied to an end of the flexible member the relative position of the magnetic field sensor with respect to the magnetic field source is changed in a direction of the force by a distance proportional to the force;
 - 15 a processor for receiving the electrical signals output by the magnetic field sensor, and generating a corresponding location signal of the pointing device; and
 - 20 a transmission system for conveying the location signal from the processor to the computer.
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2. (original) The pointing device of claim 1 wherein the magnetic field source comprises a permanent magnet or solenoid.
- 5 3. (previously presented) The pointing device of claim 1 wherein the magnetic field sensor comprises at least two hall elements each having a measuring axis and each capable of measuring the magnitude of the magnetic field at the measurement location in a direction of the measuring axis, the hall elements arranged so that the measuring axes are not parallel.
- 10 4. (previously presented) The pointing device of claim 1 wherein the magnetic field sensor comprises a single hall element having at least two mutually perpendicular measuring axes capable of measuring the magnitude of the magnetic field directions of each measuring axis at the measurement location.
- 15 5. (previously presented) The pointing device of claim 1 wherein the magnetic field sensor comprises at least two magnetoresistors each having a measuring axis and each capable of measuring the magnitude of the magnetic field at the measurement location in a direction of the measuring axis, the magnetoresistors arranged so that
- 20 the measuring axes are not parallel.
6. (original) The pointing device of claim 1 wherein the flexible member is a dampened spring that can bend, compress, and extend.
- 25 7. (original) The pointing device of claim 1 wherein the flexible member is a wire that can bend resiliently.
8. (original) The pointing device of claim 1 further comprising at least a button.

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- 5 9. (original) The pointing device of claim 8 wherein the button is mechanically connected to the flexible member and is capable of changing the relative position of the magnetic field sensor with respect to the magnetic field source, and thus modifying the electrical signal output by the magnetic field sensor to comprise a button signal.
- 10 10. (original) The pointing device of claim 1 wherein the transmission system is a connector cable or a wireless transmission module.
11. (previously presented) The pointing device of claim 1 wherein the measurement location is the origin of measurement axes of the magnetic field sensor.
- 15 12. (previously presented) The pointing device of claim 1 wherein the flexible member and magnetic field sensor form a critically dampened system.
13. (previously presented) The pointing device of claim 1 wherein the flexible member comprises a dampened element and a support.
- 20 14. (currently amended) The pointing device of claim 1 wherein ~~a first end of the flexible member is connected to the body and a~~ the second end of the flexible member is connected to the magnetic field source; the magnetic field sensor is connected to a circuit which is in turn connected to the body, the magnetic field sensor being positioned such that it can sense the magnetic field of the magnetic field source.
- 25 15. (currently amended) The pointing device of claim 1 wherein ~~a first end of the flexible member is connected to the body and a~~ the second end of the flexible member is connected to the magnetic field sensor; the magnetic field source is connected to a

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